

# Reaffirming NIST's Role as the Leader of the Nation's Measurement System

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# Purpose of Talk

- To report to the VCAT on newly initiated discussions of NIST's measurements-and-standards mission and how best to accomplish that mission
- To engage the VCAT actively in these discussions

# Background

- Senior Management Board (SMB) retreat in April to identify SMB goals for 2003 and 2004
  - Process
  - Results
- Focus of this talk: SMB Goal 1

# SMB Goal 1

***Reaffirm NIST's role as the leader of the Nation's measurement system and define how best to carry out that role and maximize impact in a changing global environment***

# SMB Goal 1

(continued)

- Why did the SMB adopt Goal 1?

Perceives need for NIST to

- Reaffirm its commitment to its traditional measurements-and-standards mission
- Pursue a vision that involves an enhanced role for NIST with more national leadership
- Develop strategies for maximizing impact in a changing global environment

# SMB Goal 1

(continued)

- What has the SMB done thus far?
  - Identified and discussed a number of tasks
  - Started several tasks
- Will focus today on broader issues related to Goal 1

# Approach

- Break SMB Goal 1 into two parts:

Part 1:

Reaffirm NIST's role as the leader of the Nation's measurement system

Part 2:

Define how best to perform that role and maximize impact in a changing global environment

- Focus on Part 1 today

# Approach

(continued)

- Discuss the following topics:
    - Nature of the task
    - Definition of *Nation's measurement system (NMS)*
    - Meaning of *NIST's role as leader*
- ⇒ A rich set of possibilities and implications



# Nature of the Task

- How *might* NIST *reaffirm its role as the leader of the NMS*?
  - Internally:
    - By stating that role
    - By reiterating its commitment to that role
    - By operating in accordance with that commitment
  - Externally:
    - By developing and marketing documents that explain
      - The NMS and its importance to the country
      - NIST's role and its importance to the country

# Definition of *NMS*

- NIST initiated the concept of the *NMS* in the 1960s
  - R.D. Huntoon, *Concept of a National Measurement System*, *Science* 158, 67-71 (1967).
- NIST pursued this further in the 1970s and 1990s
  - Raymond C. Sangster, *Study of the National Measurement System, 1972-1975, Final Summary Report*, NBS IR 75-925, December 1976.
  - C.D. Ehrlich, *et al.*, *NIST Measurement Needs Coordination Committee White Paper*, Draft, June 1997.
- We can build on these efforts

# Definition of *NMS*

*(continued)*

- May need different definitions for different audiences
- Will want to consider:
  - The purposes of the *NMS*
    - Why does it exist? Whom does it serve and in what way?
  - The components of the *NMS* and their interrelations
  - The participants in the *NMS* and their respective roles and responsibilities
  - The effects of changing times
  - The effects of the changing global environment

# Definition of *NMS*

*(continued)*

- Possible components of the NMS (for illustrative purposes only):
  - Development of new measurement methods
  - Development and maintenance of measurement standards
  - Provision of traceability services
  - Laboratory accreditation
  - Evaluation of scientific and technical data
  - Measurement-related documentary standards and conformity assessment
  - Legal metrology
  - International linkages

***We need to decide what to include***

# Meaning of *NIST's Role as Leader*

There are a variety of possibilities (not necessarily mutually exclusive)

## Possibility 1:

- Look at the individual components of the *NMS*
- Focus on those components in which NIST has a lead role

## Possibility 2:

- Look at the *NMS* holistically
- Ask if there is some sense in which NIST should be leading the entire *NMS*

# Meaning of *NIST's Role as Leader*

*(continued)*

## Examples of defining roles under Possibility 2

### Example 1:

- NIST will
  - “Develop, maintain, and retain custody of the national standards of measurement, and provide the means and methods for making measurements consistent with those standards”
  - “Assure the compatibility of United States national measurement standards with those of other nations”
- This is NIST’s foundational statutory role

# Meaning of *NIST's Role as Leader*

*(continued)*

## Example 2:

- NIST will hold itself accountable for
  - Assessing the state of the NMS
  - Advising the Administration and Congress
    - What needs to be done, by NIST and others, to meet the needs of the country
    - The consequences of not meeting those needs
- NIST will coordinate with others to assure that the highest-priority needs are met
- This idea goes back to a previous VCAT

# Meaning of *NIST's Role as Leader*

*(continued)*

- The NIST Act gives NIST a variety of functions related to the *NMS* in addition to “lead”
  - E.g., support, assist, advise, coordinate
- In defining how best to perform our role and maximize impact in a changing global environment, we need to consider these functions as well



# Questions for the VCAT

- What are your thoughts on *Reaffirming NIST's role as the leader of the NMS*?
  - Definition of the *NMS*
  - *NIST's role as leader*
  - The nature of the task
- What advice do you have for us moving forward?